

178862

I. General Information

1. Process - Approximate tons per day (or some other convenient unit) of waste significant raw materials other than pulp as noted below:

267/094
Starch & clay

Starch (wet end, size press, coating)
Clay (coating, filler, dispersant)
Caustic
Lime
Chlorine
Sulfur
Dyes
Wet Strength Additives
Salt cake
Other

[illegible]

This information will be used to develop an approximated material balance around the plant.

2. Fiber Supply - Indicate approximate percentages of primary fiber sources as indicated below:

Purchased	Tons or Cords	% of Total	% Hardwood	% Aspen	% Pine	Other Softwoods
Sawdust						
Chips						
Rough Long Wood		or				
Peeled Long Wood		or				
Rough Short Wood		or				
Peeled Short Wood		or				
TOTAL Tons or Cords						

3. What is mills energy requirement during survey period?

Fuel Oil Type _____ Gal _____
 Electricity (purchased only) KW 3,500,000 / KW H / MONTH
 Gas Type NATURAL Ft³ 22,640 / DAY
 Bark Moisture _____ % Tons _____
 Sawdust & Wood Moisture _____ % Tons _____
 Coal Type BITUMINOUS Tons 125 / DAY
LOW SULFUR

Do you supply energy to, or receive energy from other adjacent facilities?

To what facility? _____ Type Energy _____ Amount _____
 From what facility? CONSUMERS Type Energy ELECT. Amount 3,500,000 / KW
POWER CO.

This data will be used to compute total energy required for the production of one ton of product.

4. ~~External Controls Update - Please provide a block diagram of your current waste treatment system. Attached for reference (where available) is the Phase II Survey block diagram confirmed or modified.~~

5. Under/Over Capacity - For each of the following systems please indicate rated (design) capacity and normal operating rate.

	Rated Capacity (Design or Estimated)	Normal Operation
Wood Handling (yard)	_____ cords/day	_____ cords/day
Wood Room	_____ cords/day	_____ cords/day
Pulping (chips)	_____ ton*/day	_____ ton*/day
Pulping (sawdust)	_____ ton*/day	_____ ton*/day
Liquor Preparation	_____ ton*/day	_____ ton*/day
Recovery	_____ ton*/day	_____ ton*/day
Bleaching (chips)	_____ ton/day	_____ ton /day
Bleaching (sawdust)	_____ ton/day	_____ ton/day
Pulp (Dried or Wet Lap)	_____ ton/day	_____ ton/day

616-258-9119
Frankie
Protel

See
Ernie
Chino
Tony Weber

Papermaking	<u>200</u> ton/day	<u>150</u> ton/day
Converting	<u>—</u> ton/day	<u>—</u> ton/day
Waste Burners	<u>—</u> ton/day	<u>—</u> ton/day
Water Treatment	<u>NONE</u> MGD	<u>—</u> MGD
Effluent Treatment	<u>8</u> MGD	<u>2.5</u> MGD

*Tons of Pulp

6. Mill Laboratory Testing Procedures (Used in reporting 12-month data).

Temperature: °F or °C °F

pH: (a) glass electrode? X
Standardization frequency? Daily
(b) Colorimetric? —

Color: (a) NCASI, pH adjusted to —;
(b) Standard Methods
(c) Other not measured

Procedure:

Suspended Solids: (a) Glass Fiber (Std. Methods) X (b) NCASI —
(c) Asbestos — (d) Other: —

Procedure: 25 ml., 105°F

BOD5: No. of Dilutions: 3. Source of Seed: Millwaste Sec.
Dilution of water: —
Std. Methods Ingredients? yes Source of distilled water Boehring
Routine check for copper? no Seed Procedure: Std. Mthds? yes
If no describe: —

D.O. Measurement: Winkler —. Electrode YSI
Standardization method: Winkler - Daily

Incubation Temp. 20°C. Temp checked how often DAILY
No. days incubated 5. Selection of reported results:
(a) O₂ Depletion, mg/l — min; — max.
(b) Seed correction? —

Procedure:

How often does mill run standard glucose-glutamic acid test: SELDOM
Has mill changed above procedures in last 12-months? NO If yes, explain:

Bench Sheets Available for Susp. Solids? YES for BOD? YES.

Turbidity: (a) Jackson candle _____ (b) Turbidimeter X
(c) Other _____ Hach - Formazin Std.

7. Raw Water

Please provide a block diagram of the fresh water treatment system.

Include flows, chemical addition, amount and disposal of waste.

21. Paper Machines

Machine No.	Trim Width	Product	Weight/ Basis	Tons/Day or FPM
1				
2 **	98"	—	—	—
3	118"	Release Paper	25X45 1000	53 1/2 100 FPM
4	118"	C25 Release Paper	25X45 1000	97 1/2 100 FPM
5			WIDE RANGE	
6				
7				
8				

Please estimate effluent from the combined papermaking facilities as follows (i.e. total flow from all machines):

Liquid Waste	Source	* Volume	Discharge To
1. Cleaners rejects	Tertiary Cleaners	Flow 1200 GPM Cons. AVE	SEWER - TREATMENT
2. Stock Spills	Equip. & Tanks	ESTIMATED Frequency Volume 500-1000 Cons. 39-52	SEWER TREATMENT
3. Chemical Spills	Tanks	Frequency Volume	SEWER - TREATMENT
4. Lube Spills	MACHINERY BEARINGS ETC	Frequency Volume	TREATMENT SEWER
5. Pump Seal Water	Wet End and First Vac. Press Roll	GPM 500 ESTIMATED	SEWER
6. Cooling Water Waste	TURBINE DRIVES	GPM 400 MEASURED	REUSE - PARTLY
7. Wash Downs	PAPER MACHINE FLOOR DRAIN	Frequency Volume	SEWER & TREATMENT
8. Wire Pit Overflow	Wire Pit	GPM 1200 EST. (UP TO)	Couch: 2/3 SEWER 1/3 AVE

* Indicate whether measured or estimated and also please provide TSS and BOD data where available.

** Not operating at present

<u>Liquid Waste</u>	<u>Source</u>	<u>*Volume</u>	<u>Discharge To</u>
9. Couch Pit Overflow	Couch Pit	GPM ?	SEWER ⁹ SAVE-ALL TREATMENT
10. White Water Overflow	SAVE-ALL & WHITE WATER TANKS	GPM EST. 1042-1290	SEWER ⁹ TREATMENT
11. Chest Drains	STOCK CHESTS	Frequency / WEEK Volume / WEEK EST.	SEWER - TREATMENT
12. Splashing	NEGLECTABLE	GPM —	SEWER
13. Saveall Filtrate	Saveall	GPM 600-1400 EST.	Excess to Sewer
14. Fourdrinier Vacuum System	Fourd. Vac.	GPM	Couch pit
15. Press Vacuum System	Press Vacuum	GPM } 75	SEWER
16. Felt Wash		GPM }	SEWER
17. Suction Couch Roll	Couch Roll	GPM 450	SAVE-ALL
18. Suction Breast Roll	Breast Roll	GPM ?	SAVE-ALL

<u>Solid Waste</u>	<u>% Moisture</u>	<u>Ton/Day</u>	<u>Discharge To</u>
1. Saveall Sludge	10-12 %	NOT DETERMINED	Machine Chest
2. Screen Rejects CANTON SCREEN	?	1 T/DAY	Jonsson Screen
3. Other Jonsson Screen Rejects	?	?	Land fill

*Indicate whether measured or estimated and also please provide TSS and BOD data where available.

35. Describe final output from plant such as:

Output	%
Roll Stock	75.0
Sheet Stock	25.0
Converted Tissue Towels	0
Market Pulp	0
Wet Lap	0
Other	0
By-products	#/Day
Tall Oil	
Soap	
Turpentine	

36. External Process

Please describe and give approximate GPM of sewer effluent from:

- A. Boilers
- B. Sludge Dewatering
- C. Air Pollution Control (Misc.)
- D. Cooling Towers *NOT APPLICABLE*

Please describe and give approximate GPM of any primary or secondary effluent which is returned to process.

37. Please provide any in-plant test data available which quantifies discharge from particular mill systems in terms of flow, BOD, suspended solids or pH. Of particular interest is data which reflects conditions both before and after installation of in-plant effluent control.
38. What additional measures could be implemented to reduce raw waste load and what are the constraints?

ERRATA SHEET
308 SURVEY FORM
NON-INTEGRATED MILL FORM

General:

For questions and/or pages where the data are not available or unknown, please label appropriately UK. Please return all pages to avoid the question of lost responses.

PART I

Page No.

- 11 Production Information: Average Daily (tons/day) is based on yearly air dry production (total air dry tons in a year) divided by the mill operating days in that year. Thus, even for specific pulp types (i.e., hardwood, softwood), use total pulp consumed for that year divided by mill operating days in that year, not the days in which that type of pulp is consumed.

- 11 ² Production Information: The requested data period is for the 12 month period of January 1, 1976 to December 31, 1976, or another more recent 12 month accounting period if the latter more clearly depicts your operation.

Mills providing more recent data for new waste treatment facilities (i.e., January/July, 1977 to October, 1977) should also include production data for an identical period. Therefore, some mills with new treatment facilities may be providing data for two periods (i.e., 1976 and July - October, 1977). *Advise us to release all my produce considerably more*

- 11 Question 8: Please include broke used as a supplemental fiber under - Other. This includes outside purchased broke, that dry broke stored and reclaimed, or broke returned from finishing/converting operations. Please do not include either dry or wet broke generated on the machine or winder.

- 11-14 Questions 3-14: The pulp production should be reported as air dry (i.e.: containing 10% moisture). Paper production will be reported as produced and as normally accounted for in your mill. Do not correct paper production to any particular moisture level unless this is a normal mill practice. Production should be measured after the winder.

- 12 Question 13 - Wood Free Printing, Writing, and Related: Should be Groundwood Free.

- 13 Question 18 - Sanitary Tissue: Include tissue, toweling, and other sanitary tissue products.

Page 45 -
part b - duplicate
of Part I -

Page No.

17-21 Questions 26-164: Chemicals and other raw materials: Usage rate is based on purchased weights (i.e., wet weight).

24 Questions 219, 221, 225: Indirect dischargers should respond to these questions for practices, if applicable, at the mill and not those used by the POTW.

26 Question 238: Holding Pond - A pond providing long-term detention of treated mill effluents prior to discharge. A pond with 6-24 hours detention is not termed a holding pond.

27 Question 251-254: MGD = Million gallons per day.

27 Questions 251-254: Please include item d. COD, lbs/day.

- 1) average day
- 2) maximum day
- 3) maximum month

28 Priority Pollutant compounds: This section may be returned with the Part II response, therefore, a mill will have 90 days to provide the requested data. *OK*

The second paragraph should read:

Part II
It should be noted that many mills may be using quantities of the listed chemicals as additives, cleaning solution, or solvents which are purchased and referred to by a trade name. Please supply trade names of those proprietary type chemicals, which contain one or more of the listed priority pollutants as constituents, used in the mill. Exclude all laboratory chemicals.

How much of a chemical?
In providing the requested data, mill personnel should not guess or speculate what priority pollutants may be contained in certain raw process materials/chemicals. If it is known through published manufacturer data, direct tests performed by the mill, or other information, that the priority pollutants are in the materials/chemicals, then so signify. Please include trade name and priority pollutant number (if known).

Quantity in million gallons, and please indicate units.

PART II

Page No.

36 Question 190: - - - with elutriation or other stock saving device - - -.

41 Question 207: Cooling water is water used for cooling of process equipment, etc. It shall not come in contact with process fiber, chemicals, and other process waters. Water which passes through a ~~heat exchanger prior to use in the process is not considered as cooling water.~~

42 Question 210: Omit now.

Don't need { 42, 43 Questions 217 and 218: Pretreatment limits are mandatory limits - not those incurring cost penalties if exceeded. *INDIRECT.*

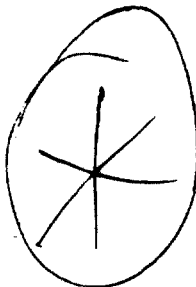
43, 44 Questions 220, 222-224: Indirect Dischargers - apply to practices and facilities at the mill, not those at the POTW. ✓

(44) Question 227: Only the mill's current summary NPDES effluent discharge limits should be attached. Do not include whole permit.

48 Question 244 - Cost Information: Include 1977 costs (capital and O & M) if new facilities constructed or if operating costs are significantly different from 1976. If 1977 period of O & M costs is less than 1 year, so indicate.

50 - 51 Questions 255-259: Please specify if samples are grab or if automatic samplers are used. Also, if the samples are refrigerated.

54 Question 266: RBC - Rotating biological contactor on surfaces.



- 1- Comparison on left side - identify as PA
- 2- Why does car need diff gear after mile?

3- Must complete questionnaire -

- 1- 2-4- No restriction on detail - No
- 3-5- No new data generation is required -
- 4-6- Disclosure info to NCAS

EPA
Carg Vright - E.C. Jordan - Charles Cox

P-1 - 4/5 day } no seen action
P-11 - 90 days? } return -

Revising BAT guidelines - (7/10/00 King Street)
65 compounds ~~not~~ no - 12a must be looked at - Will do 72 hr cont. sampling & a given mill - to possibly eliminate 12a compounds -

Will check 5 mills for 12a compounds & maybe eliminate some - (Verification - 34 hr compounds)

Compounds

308 -

10/6/77

What about groundwater

Outstanding - ?

Economic Survey coming in about a month -
 30-45 day turn = turnover
 E.C. Gordon also in agreement to hold out to check if areas in the plans for private problem areas -

~~Went~~ Went to Verify whether requirements!

E.C. Gordon Report due 6/78 - while
 going to studying for command by 1979 -
 will have negotiations on board by 1975.
 E.C. Gordon will discuss. - + private
 split sample - we should duplicate -

* Completed Sampling by 12/1/77 -
 when samples are split they will be
 identical or specific procedure -
 some will have been notified -

Turns
 following Conf - CPA to do so -
 + also NCA51 - once both -

Answers for Personal Attention -

Def 13 - 9 - L. Stepper - allied - W in. or mill - (Carl Oles of Mead)

Major modification?

Rebuilds which cause effluent changes -

- Water use can be significant

Age of Mills -

What makes it old or new?

Eliminal - Down daily -

I Road - Winder or Pulp dryer -

II Production days mean operating any part of the day -

III Account for all fibers used - differentiate between our mill & others -
additional waste load from broke -
gives out in bales or finished etc.

pg-17 - Non-Routine Source of broke -
Material adding to a non-consistent waste load -

Define - Air dry = 90% Pulp -

(*) as data is normally reported -

Paper % as it comes off the machine -

1/20/72

Processing handle & price
Lead 13 - 4-5 penny stream

Pg - 17

Raw materials -

is not in typical raw - 1976 otherwise -
not meeting p needs - don't make -
Raw material data found on offshoot

data -
Ping water with wgs on 500# - purchased -
Boiler water & steam? 250 - continuing
Bain 300 -
Lead - 2400 No - if it has an impact
on the water level -
from industry
from industry
from industry

Pg - 23 -

2400 pps to P O T U (No. 219
537 - P O T U - involved

540 - our mail

542 For lesson in attention

Sent all material

Holding Card -

* (Pgs -)
PCB's & other substances not to be
included -

Report will give known - Try to obtain

data -

of they find raw material in land. they
may not know about it -

45- 114
46 115
47 116
48 117
49 118
50 119
51 120
52 121
53 122
54 123
55 124

Bauer Cleaners
~~Electronics~~ - DON'T HAVE TO GENERATE NEW DATA!!
Had an initial list of 1000 Raw materials -
mat. causing cancer etc -

Pg-31 These compounds cause Bio. activity
Not Priority Poll. list -
Report what may get into discharge -

Pg-41

Looking to see mat. # we can't speed -

Pg-44 - PH to A. Basin -

Pg-48 -

cap cost - put in System
Projected costs for Equip. not
installed -

Pg-49 - Base rate 1976
If you change discharge for 1977
make note of Costs - 1978

Pg- Page 53 - Same as
Phase I-II documents -
System is (1976) different
have process describe

Non - Integrated
Part II -

Pg - 36 - 37

Errata Sheets ? Will be sent -
about a week from Monday -
The day we receive permission Pland -
Corp. Rep. -

Sampler Analysis -
Ref. not included as Std. -
Ref. Should be used -

#2 - #3 - #4 down - 6 months

#4 - going

#3 - "

#2 -

15
13
—
2

ENVIRONMENTAL PROTECTION AGENCY
EFFLUENT GUIDELINES
IN-PLANT CONTROLS SURVEY
SURVEY FORM ADDENDUM

Mill Name EXAMPLE

Address NON-INTEGRATED KRAFT FINE PAPERS

I. General Information

1. Process - Approximate tons per day (or some other convenient unit) of waste significant raw materials other than pulp as noted below:

	Amt.	Units
Starch (wet end, size press, coating)	<u>5</u>	T/D
Clay (coating, filler, dispersant)	<u>50</u>	T/D
Caustic	<u>8</u>	T/D
Lime	<u>5</u>	T/D
Chlorine	<u>20</u>	T/D
Sulfur	_____	
Dyes	_____	
Wet Strength Additives	_____	
Saltcake	<u>9</u>	T/D
Other	_____	

This information will be used to develop an approximated material balance around the plant.

2. Fiber Supply - Indicate approximate percentages of primary fiber sources as indicated below:

Purchased	Tons or Cords	% of Total	% Hardwood	% Aspen	% Pine	Other Softwoods
Sawdust						
Chips	440 T/D	40%	100%			
Rough Long Wood	or					
Peeled Long Wood	or					
Rough Short Wood	660 T/D or	60%	100%			
Peeled Short Wood	or					
TOTAL	Tons or Cords 1100 T/D		100%			

3. What is mills energy requirement during survey period?

Fuel Oil	Type	<u>NO 6</u>	Gal	<u>27,000 GAL/D</u>
Electricity (purchased only)			KW	<u>100,000 KWH/D</u>
Gas	Type	<u>-</u>	Ft ³	<u>-</u>
Bark	Moisture	<u>50</u>	% Tons	<u>50 T/D C.D.</u>
Sawdust & Wood	Moisture	<u>-</u>	% Tons	<u>-</u>
Coal	Type	<u>-</u>	Tons	<u>-</u>

Do you supply energy to, or receive energy from other adjacent facilities?

To what facility? _____ Type Energy _____ Amount _____
 From what facility? D.P. UTIL. Type Energy ELECT Amount 25000 KWH/D

This data will be used to compute total energy required for the production of one ton of product.

4. External Controls Update - Please provide a block diagram of your current waste treatment system. Attached for reference (where available) is the Phase II Survey block diagram confirmed or modified. **ATTACHED AT END**
5. Under/Over Capacity - For each of the following systems please indicate rated (design) capacity and normal operating rate.

	Rated Capacity (Design or Estimated)	Normal Operation
Wood Handling (yard) **	<u>500</u> cords/day	<u>440</u> cords/day
Wood Room **	<u>500</u> cords/day	<u>440</u> cords/day
Pulping (chips)	<u>500</u> ton*/day	<u>500</u> ton*/day
Pulping (sawdust)	<u>-</u> ton*/day	<u>-</u> ton*/day
Liquor Preparation	<u>550</u> ton*/day	<u>500</u> ton*/day
Recovery	<u>550</u> ton*/day	<u>500</u> ton*/day
Bleaching (chips)	<u>500</u> ton/day	<u>500</u> ton /day
Bleaching (sawdust)	<u>-</u> ton/day	<u>-</u> ton/day
Pulp (Dried or Wet Lap)	<u>100</u> ton/day	<u>0</u> ton/day

** INCLUDES CHIPS AND ROUGH WOOD

Papermaking	<u>475</u> ton/day	<u>425</u> ton/day
Converting	<u>-</u> ton/day	<u>-</u> ton/day
Waste Burners	<u>50</u> ton/day	<u>50</u> ton/day
Water Treatment	<u>25</u> MGD	<u>20</u> MGD
Effluent Treatment	<u>18</u> MGD	<u>20</u> MGD

*Tons of Pulp

6. Mill Laboratory Testing Procedures (Used in reporting 12-month data).

Temperature: °F or °C °C

pH: (a) glass electrode? X
Standardization frequency? DAILY
(b) Colorimetric? _____

Color: (a) NCASI, pH adjusted to 7.6;
(b) Standard Methods
(c) Other _____

Procedure:

Suspended Solids: (a) Glass Fiber (Std. Methods) X (b) NCASI _____
(c) Asbestos _____ (d) Other: _____

Procedure:

BOD5: No. of Dilutions: 2. Source of Seed: MUNIC. TREAT. PLANT
Dilution of water:
Std. Methods Ingredients? X Source of distilled water LAB STILL
Routine check for copper? NO Seed Procedure: Std. Mthds? _____
If no describe: _____

D.O. Measurement: Winkler X. Electrode _____
Standardization method: STANDARD METHODS

Incubation Temp. 20° C. Temp checked how often? CONTINUOUS
No. days incubated 5. Selection of reported results:
(a) O₂ Depletion, mg/l 1 min; 5 max.
(b) Seed correction? YES

Procedure:

How often does mill run standard glucose-glutamic acid test: WEEKLY
Has mill changed above procedures in last 12-months? NO If yes, explain:

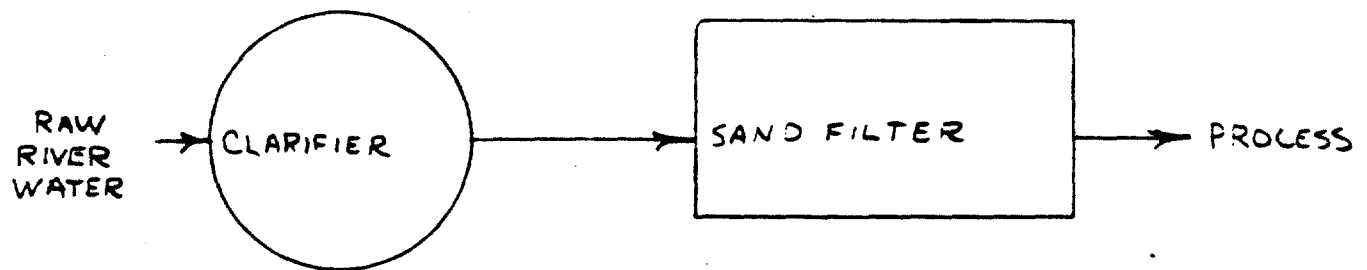
Bench Sheets Available for Susp. Solids? YES for BOD? YES.

Turbidity: (a) Jackson candle X (b) Turbidimeter _____
(c) Other _____

7. Raw Water

Please provide a block diagram of the fresh water treatment system.

Include flows, chemical addition, amount and disposal of waste.



21. Paper Machines

Machine No.	Trim Width	Product	Weight/ Basis	Tons/Day or FPM
1 3	96"	OFFSET PAPER	25# 17" x 22" x 500	70 TPD (350 FPM)
2 4	96"	BOOK - ADER COATED OFF- MACHINE	38#	80 TPD (800 FPM)
3 7	108"	BOOK PAPER	35#	100 TPD (920 FPM)
4 8	124"	BOOK PAPER	30#	125 TPD (920 FPM)
5 9	124"	BOOK PAPER	30#	125 TPD (920 FPM)
6				
7				
8				

Please estimate effluent from the combined papermaking facilities as follows (i.e. total flow from all machines):

Liquid Waste	Source	* Volume	Discharge To
1. Cleaners rejects	Cleaners	Flow 50 gpm Cons. 1%	TREATMENT
2. Stock Spills	MACHINE AND BLEND CHESTS	Frequency 3x/day Volume 500 gal Cons. 3%	TREATMENT
3. Chemical Spills	TANKS	Frequency Volume	TREATMENT
4. Lube Spills		Frequency Volume	TREATMENT
5. Pump Seal Water	CLARIFIED WHITE WATER	GPM 450 gpm	TREATMENT
6. Cooling Water Waste	FRESH WATER	GPM 375 gpm	SEWER
7. Wash Downs	PAPER MACHINE FLOOR DRAINS	Frequency 3x/day Volume 2500 gal	TREATMENT
8. Wire Pit Overflow	Wire Pit	GPM 5500 gpm	SAVEALL

* Indicate whether measured or estimated and also please provide TSS and BOD data where available.

<u>Liquid Waste</u>	<u>Source</u>	<u>*Volume</u>	<u>Discharge To</u>
9. Couch Pit Overflow	Couch Pit	GPM 1200	WIRE PIT
10. White Water Overflow		GPM	
11. Chest Drains	MACHINE CHEST	Frequency 2x/yr Volume 10000 ± 93%	TREATMENT
12. Splashing	FLOOR DRAINS	GPM 50	TREATMENT
13. Saveall Filtrate	Saveall	GPM 5000	SHOWERS, SEAL WATER DUSTION
14. Fourdrinier Vacuum System	Fourd. Vac.	GPM	WIRE PIT
15. Press Vacuum System	Press Vacuum	GPM 450	WIRE PIT
16. Felt Wash		GPM	WIRE PIT
17. Suction Couch Roll	Couch Roll	GPM	WIRE PIT
18. Suction Breast Roll	Breast Roll	GPM	

<u>Solid Waste</u>	<u>% Moisture</u>	<u>Ton/Day</u>	<u>Discharge To</u>
1. Saveall Sludge	90%	33 T/D O.D.	MACHINE CHEST
2. Screen Rejects	93%	5 T/D O.D.	TREATMENT
3. Other			

*Indicate whether measured or estimated and also please provide TSS and BOD data where available.

35. Describe final output from plant such as:

Output	%
Roll Stock	25%
Sheet Stock	75%
Converted Tissue	
Towels	
Market Pulp	
Wet Lap	0%
Other	
By-products	#/Day
Tall Oil	0
Soap	0
Turpentine	0

36. External Process

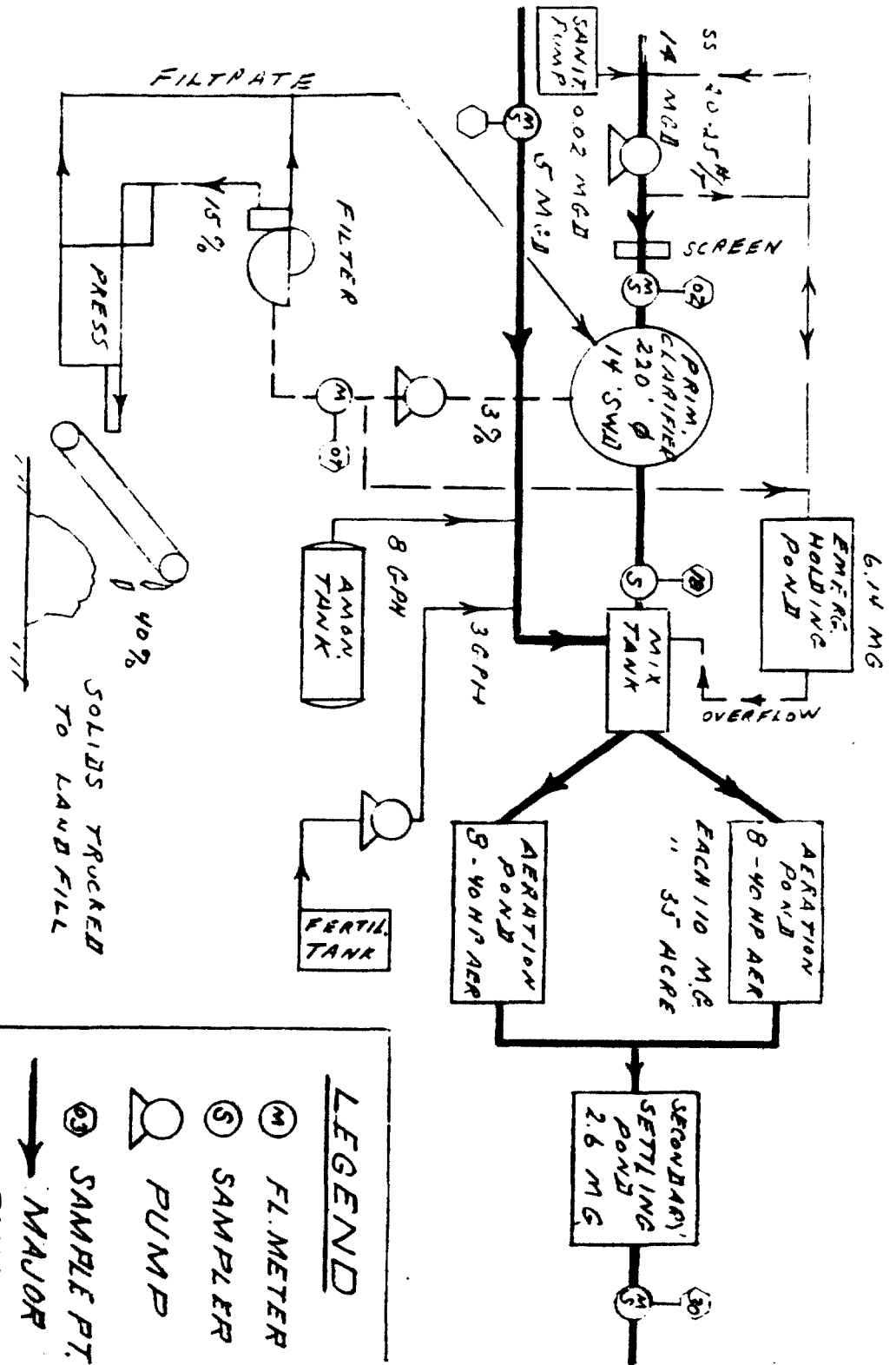
Please describe and give approximate GPM of sewer effluent from:

- A. Boilers - 3000 gal/DAY FOR ION EXCHANGE AND BACKWASH
- B. Sludge Dewatering - NONE
- C. Air Pollution Control (Misc.) - 0
- D. Cooling Towers - NONE

Please describe and give approximate GPM of any primary or secondary effluent which is returned to process.

- 37. Please provide any in-plant test data available which quantifies discharge from particular mill systems in terms of flow, BOD, suspended solids or pH. Of particular interest is data which reflects conditions both before and after installation of in-plant effluent control.
- 38. What additional measures could be implemented to reduce raw waste load and what are the constraints?

PROJECT	COMP BY	JOS NO.
	CHK BY	DATE



EXTERNAL TREATMENT FACILITY

